Connection Details for Prefabricated Bridge Elements   Federal Highway Administration

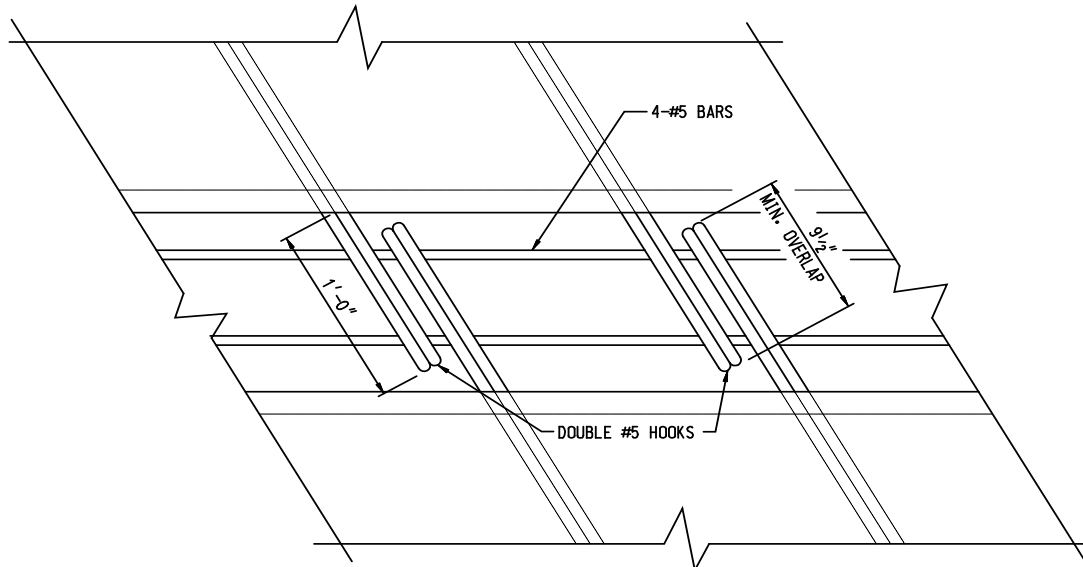|			
Organization:	Iowa Department of Transportation	**Detail Number**	**2.1.1.1 l**
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	Ames, IA 50010	**Detail Classification**	**Level 2**

TOPIC AREA: Bridges > Superstructure > Full Depth Deck Slabs

Components Connected	Full Depth Precast Concrete Deck Panel	to	Full Depth Precast Concrete Deck Panel

Name of Project where the detail was used	Boone County IBRC Project over Squaw Creek

Connection Details: Manual Reference Section 2.1.1.1

4-#5 BARS

MIN. OVERLAP

9½"

1'-0"

DOUBLE #5 HOOKS

PLAN - LONGITUDINAL CLOSURE POUR

1'-0"
CLOSURE POUR

4-#5 BARS

DOUBLE #5 HOOKS

PRECAST DECK

ALL INTERNAL REINF.
NOT SHOWN

2%   2%

SEAL TO PREVENT
LEAKAGE

LONGITUDINAL KEYWAY
TEMP FORM FOR CLOSURE POUR
BY CONTRACTOR
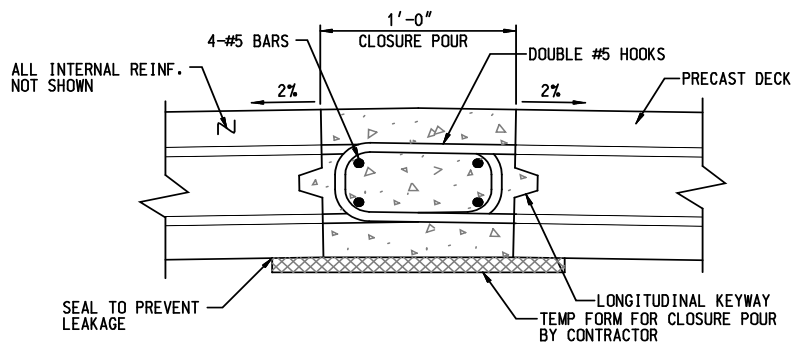
TYPICAL LONGITUDINAL CLOSURE POUR

NOTE:
THE MANUFACTURER SHALL OFFSET THE PLACEMENT OF THE #5 HOOKS BETWEEN
THE TWO HALVES OF THE DECK TO AVOID CLOSURE POUR INTERFERENCE. THE HOOKS
SHALL BE PLACED UP TO A MAXIMUM OF 5" AWAY FROM THE INTERNAL DECK REINFORCING

REFERENCE TITLE: | Full Depth Deck Panel Zipper Pour

Description, comments, specifications, and special design procedures

The Boone County IBRC Project had a out to out deck deck width of 33'-2". This deck was made up of two full depth precast deck panels measuring 16'-1" wide with a 1' wide longitudinal joint running down the centerline of the bridge. The precast panels included #5 bar double hoops extending from each panel into the joint. Four #5 bars where then placed longitudinally in the joint. The joint was then formed and cast-in-place with a high early strength concrete with low shrinkage characteristics.

Editor's Notes

What forces are the connection designed to transmit? (place x in appropriate boxes)

Shear | x | Moment | x | Compression | | Tension | | Torsion |

What year was this detail first used? | 2006 | Condition at last inspection (if known) |

How many times has this detail been used? | Once | Year of last inspection |

Would you use it again? | Yes | (yes/no/maybe)

On a scale of 1 to 10, how would you rate the performance of this connection in the following categories?

Speed of Construction | 7 | (0 very slow, 10 very fast) When compared to conventional construction

Constructability | 10 | (0 difficulty making connection, 10 went together easily)

Cost | | (0 expensive, 10 cost effective) When compared to other connection methods

Durability | | (0 not durable, 10 very durable)

Inspection Access | 10 | (0 not visible, 10 easily inspected)

Future Maintenance | | (0 will need maintenance, 10 no maintenance anticipated)